

# Ravenswood Expansion Project

Chicago, Illinois

(November 2002)

## Description

The Chicago Transit Authority (CTA) is proposing to reconstruct existing platforms and stations on the existing Ravenswood (Brown) Line to accommodate eight-car trains, along with other related capital improvements. The Ravenswood Line extends approximately 9.3 miles from the Kimball Terminal on the north side of Chicago through the “Loop Elevated” in downtown Chicago and includes 19 stations. The majority of the line operates on an existing elevated structure (8.1 miles), except for a portion near the northern end of the line, which operates at-grade (1.2 miles). The line was originally constructed in the late 1800s and early 1900s and currently operates through several densely developed Chicago neighborhoods. CTA reports that Brown Line stations currently experience persistent overcrowding conditions. Current station and platform size prohibit the CTA from increasing capacity to handle increasing demand.

The proposed project includes the modernization of stations and other rail infrastructure improvements, including compliance with the Americans with Disabilities Act (ADA) regulations for improved station accessibility, resulting in an enhancement of passenger safety and convenience. CTA would also upgrade several highway grade crossings to reduce inconvenience to vehicular traffic and improve pedestrian safety along the line. CTA also expects that the modernization of the Brown Line’s signal/communication controls would improve train performance and reliability by optimizing operations along the line via a reduction or elimination of current “slow zones” of, in some areas, less than 15 miles per hour due to the line’s deterioration. CTA anticipates that the improvements would facilitate the capability to reach 35 mph and reduce passenger waiting times at Brown Line stations. Current headways along the line average approximately 3.8 minutes. These improvements are anticipated to result in travel time savings of approximately 13.8 percent (four minute decrease in travel time from Kimball to “the Loop” in downtown Chicago) and a 33 percent increase in the line’s capacity.

Summary Description	
<b>Proposed Project:</b>	Heavy Rail Expansion; Related Improv. 9.3 Miles, 19 Stations
<b>Total Capital Cost (\$YOE):</b>	\$529.9 Million
<b>Section 5309 New Starts Share (\$YOE):</b>	\$245.5 Million (46%)
<b>Annual Operating Cost (2020 \$YOE):</b>	\$1.2 Million (Incremental Cost)
<b>Ridership Forecast (2020):</b>	68,000 Average Weekday Boardings 12,300 Daily New Riders
<b>Opening Year Ridership Forecast (2009):</b>	55,700 Average Weekday Boardings
<b>FY 2004 Finance Rating:</b>	Medium
<b>FY 2004 Project Justification Rating:</b>	Not Rated
<b>FY 2004 Overall Project Rating:</b>	Not Rated

The ***Not Rated*** rating was assigned since FTA and the project sponsor were unable to successfully implement the software necessary to calculate the user benefit information for this project. However, FTA and the project sponsor have calculated an estimate of user benefits, which we believe to be reasonable and which would result in a “Recommended” rating for the project. FTA will continue to work with the project sponsor to implement the software and confirm this estimate. The overall project rating applies to this *Annual Report on New Starts and reflects conditions as of November 2002*. Project evaluation is an ongoing process. As New Starts projects proceed through development, the estimates of costs, benefits, schedules and impacts are refined. **The FTA’s ratings and recommendations will be updated annually to reflect new information, changing conditions and refined financing plans.**

## Status

In November 1997, the Chicago Area Transportation Study – the local Metropolitan Planning Organization – included the Ravenswood Expansion Project in the region’s financially constrained long range transportation plan. FTA approved the project into Preliminary Engineering in early 2000. In February 2002, CTA completed an Environmental Assessment. FTA issued a Finding of No Significant Impact on the project in July 2002. FTA approved the project into Final Design in August 2002. CTA anticipates that Final Design will be completed in April 2003.

TEA-21 Section 3030(a)(11) authorizes the “Ravenswood Line Extension [CTA]” for Final Design and construction. Through FY 2002, Congress has appropriated \$7.89 million in Section 5309 New Starts funds for the project.

## Evaluation

The following criteria have been estimated in conformance with FTA’s *Reporting Instructions for the Section 5309 New Starts Criteria*, updated in June 2002. The project will be reevaluated for next year’s *Annual Report on New Starts*.

Project Justification Quantitative Criteria		
Mobility Improvements Rating: Not Rated		
Average Employment Per Station Average Low Income Households Per Station Transportation System User Benefit Per Project Passenger Mile (Minutes)	<u>New Start vs. Baseline</u>	
	4,229	
	608	
	Not Rated	
Environmental Benefits Rating: High		
<u>Criteria Pollutant Reduced</u> (tons)	<u>New Start vs. Baseline</u>	
Carbon Monoxide (CO)	70	
Nitrogen Oxide (NO <sub>x</sub> )	1,380	
Hydrocarbons	120	
Particulate Matter (PM <sub>10</sub> )	160	
Carbon Dioxide (CO <sub>2</sub> )	18,910	
<u>Annual Energy Savings</u> (million) BTU	235,320	
Cost Effectiveness Rating: Not Rated		
	<u>New Start vs. Baseline</u>	
Cost per Transportation System User Benefit (current year dollars/hour)	Not Rated	
Operating Efficiencies Rating: Medium		
	<u>Baseline</u>	<u>New Start</u>
System Operating Cost per Passenger Mile (current year dollars)	\$0.16	\$0.16

## Project Justification

### Rating: Not Rated

This project was assigned a ***Not Rated*** since FTA and the project sponsor were unable to successfully implement the software necessary to calculate the user benefit information for this project. However, FTA and the project sponsor have calculated an estimate of user benefits, which we believe is reasonable and would result in an overall rating of “Recommended” for the project. FTA will continue to work with the project sponsor to implement the software and confirm this estimate. Based on 1990 Census data, CTA estimates that there are 11,551 low-income households within a ½-mile radius of the proposed 19 stations that would be reconstructed as part of the Ravenswood Expansion Project. This represents approximately 13 percent of the total number of households within a ½-mile radius of the proposed project. CTA also estimates that the project would serve approximately 80,000 jobs that are located within a ½-mile radius of station areas. The Chicago metropolitan area is classified as a “severe non-attainment area” for ozone. The region is an “attainment area” for carbon monoxide and

particulate matter. CTA estimates that the project has an incremental cost per incremental trip value of \$5.00.

## **Existing Land Use, Transit-Supportive Land Use Policies and Future Patterns**

### **Rating: High**

The *High* rating reflects high population and employment levels and the strong transit-accessible environment that characterizes the Ravenswood Corridor and the Chicago central business district (CBD).

**Existing Conditions:** The Ravenswood Line has been in operation for nearly 100 years and serves neighborhoods that originally developed around the transit system. The corridor contains an estimated 89,000 jobs and 194,000 residents within a ½-mile radius of stations (not including the CBD). Population densities are very high, averaging 24,900 persons per square mile. Current employment density within the corridor is estimated at 11,400 jobs per square mile. The line serves a dense CBD with an estimated 339,000 jobs. Other major trip generators in the corridor include DePaul University (18,000 students) and three major hospitals. Existing development along the entire line is highly urban in character. Mixed commercial, retail, and residential development on arterials – generally two-to-four stories in height in the inner portion of the corridor – is surrounded by dense residential neighborhoods characterized by multi-family and densely packed single-family housing. The inner stations along the Ravenswood Line also serve several high-rise apartment buildings and specialty retail districts. Existing Chicago zoning ordinances permit transit-supportive commercial and residential densities in the corridor. Consequently, new development and infill development conforms to the scale of existing development and transit-supportive land use design principles.

**Future Plans, Policies and Performance:** In the year 2020, total population and employment within the Ravenswood Corridor is projected to increase approximately ten percent (214,000) and eight percent (95,700), respectively. CTA, along with the State of Illinois, is engaged in the promotion and support of transit-oriented land use development principles and activities as well as regional growth management strategies. The City of Chicago also has a number of policies and programs in place to support redevelopment and transit-supportive land use development. The City has designated a number of tax increment financing (TIF) districts to finance improvements in dilapidated areas and stimulate reinvestment. There are a number of TIF districts in proximity to existing Ravenswood Line stations. In addition, the City has created an Industrial Corridors Program to plan and implement improvements to Chicago's 22 industrial corridors to increase the area's competitiveness. One of these corridors is adjacent to three existing Ravenswood Line stations. The Metropolitan Planning Council, a non-profit, non-partisan group of business and civic leaders, including the Chicagoland Chamber of Commerce and Business Leaders for Transportation, is leading a "Campaign for Sensible Growth" to promote economic development and community development in established neighborhoods.

## **Other Factors**

The City of Chicago has aggressive parking policies in place to support transit in the Ravenswood Corridor. Current zoning allows higher densities with reduced parking requirements in relation to transit facilities. In addition, the Chicago zoning code provides

bonuses in the form of reduced parking requirements and increased floor area ratios for direct connections to transit, open space, setbacks and arcades.

## Local Financial Commitment

### **Rating: Medium**

The *Medium* local financial commitment rating was determined by the *Medium* rating for the capital financing plan.

## Proposed Non-Section 5309 New Starts Share of Total Project Costs: 54%

### **Rating: Medium**

The financial plan for the Ravenswood Expansion Project includes Section 5309 New Starts funds, Section 5307 Urbanized Area Formula funds, Illinois DOT bonds, and bonds from the Regional Transportation Authority (RTA) of Northeastern Illinois and the CTA.

<b>Locally Proposed Financial Plan</b>		
<b><u>Proposed Source of Funds</u></b>	<b><u>Total Funding (\$million)</u></b>	<b><u>Percent of Total</u></b>
<b>Federal:</b>		
Section 5309 New Starts	\$245.5	46.3 %
Section 5307 Urbanized Area Formula	\$177.6	33.5 %
<b>State:</b>		
Illinois DOT	\$49.7	9.4 %
<b>Local:</b>		
RTA/CTA bonds	\$57.0	10.8 %
<b>Total:</b>	<b>\$529.9</b>	<b>100.0 %</b>

**NOTE:** Funding proposal reflects assumptions made by project sponsors, and are not DOT or FTA assumptions. Total may not add due to rounding.

## Stability and Reliability of Capital Financing Plan

### **Rating: Medium**

The *Medium* rating acknowledges the stability of the non-Section 5309 New Starts sources that are reflected in the financial plan for the Ravenswood Expansion Project – Illinois DOT bonds, Strategic Capital Improvement Program bonds – including historical trends of receiving financial support from the sales tax revenues that CTA levies in the agency's service area (Cook County).

**Agency Capital Financial Condition:** CTA's financial condition is sound. The average age of the agency's bus fleet is 8.7 years. As a result of an aggressive vehicle replacement schedule, the percentage of buses over 12 years old has been reduced from 29 percent in 1998 to 17 percent currently. CTA is also undergoing a major recapitalization program of the agency's rail fleet.

**Capital Cost Estimate and Contingencies:** The proposed project's total capital cost estimate increased approximately 11 percent from last year's *Annual Report on New Starts*. The current estimate includes project management, construction, signals/communications equipment, real estate acquisition, and financing charges. The current total capital cost estimate also includes a 9.5 percent [project-wide] contingency, which is sufficient for this stage of project development.

**Existing and Committed Funding:** All non-Section 5309 New Starts funds are from existing sources and are considered reasonably committed. The Illinois DOT, RTA and the CTA are scheduled to contribute a total of \$106.7 million to cover approximately 10.6 percent of the non-Section 5309 New Starts share of the project's total estimated capital cost. These funds would be provided by the Illinois FIRST (Funding for Infrastructure, Roads, Schools and Transportation) program and local bond revenues.

**New and Proposed Sources:** No new sources of capital funding are proposed for the reconstruction of the Ravenswood Line.

### **Stability and Reliability of Operating Finance Plan** **Rating: Medium-High**

The *Medium-High* rating acknowledges CTA's healthy operating condition. Anticipated revenues (sales taxes and Illinois public transportation funds) to operate the proposed project are considered stable and sufficient.

**Agency Operating Financial Condition:** CTA is operating within a solid financial framework. Since 1997, annual ridership on CTA's bus and rail lines has increased approximately 7.5 percent. CTA's FY 2002 [system-wide] operating budget is estimated at \$914.8 million – a 5.3 percent increase over the FY 2001 operating budget. Of this amount, approximately 35 percent (\$326 million) is anticipated for the agency's rail operations. The agency's system-generated revenues increased from \$402 million in 1996 to \$473 million in 2002, an increase of 18 percent. By the year 2021, system-generated revenue is projected to grow annually to \$732 million (55 percent increase from the year 2002). CTA's annual budget is anticipated to increase to \$1.2 billion by the year 2008, while growing to approximately \$1.4 billion in the year 2021.

**Operating Cost Estimates and Contingencies:** Annual incremental operating and maintenance costs for the Ravenswood Expansion Project are estimated by CTA at \$1.2 million (escalated dollars) and are anticipated to increase annually at a rate of two-to-three percent according to the agency's 20-year cash flow analysis. The proposed project would be integrated into CTA's overall rail operations plan. According to the agency's rail fleet management plan, the current Ravenswood Line accounts for approximately \$38 million to \$46 million of the agency's overall rail operating budget. Following the completion of the Ravenswood Expansion Project, CTA's projected incremental operating and maintenance costs for the Brown Line would be reasonable, in comparison to the agency's system-wide operating expenses.

**Existing and Committed Funding:** All proposed sources of operating funds (sales taxes, fares, etc.) are existing and committed.

**New and Proposed Funding Sources:** No new sources of revenue are proposed for the operations of the Ravenswood Expansion Project.

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